E. COLI (Hamburger Disease)

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PREVIEW

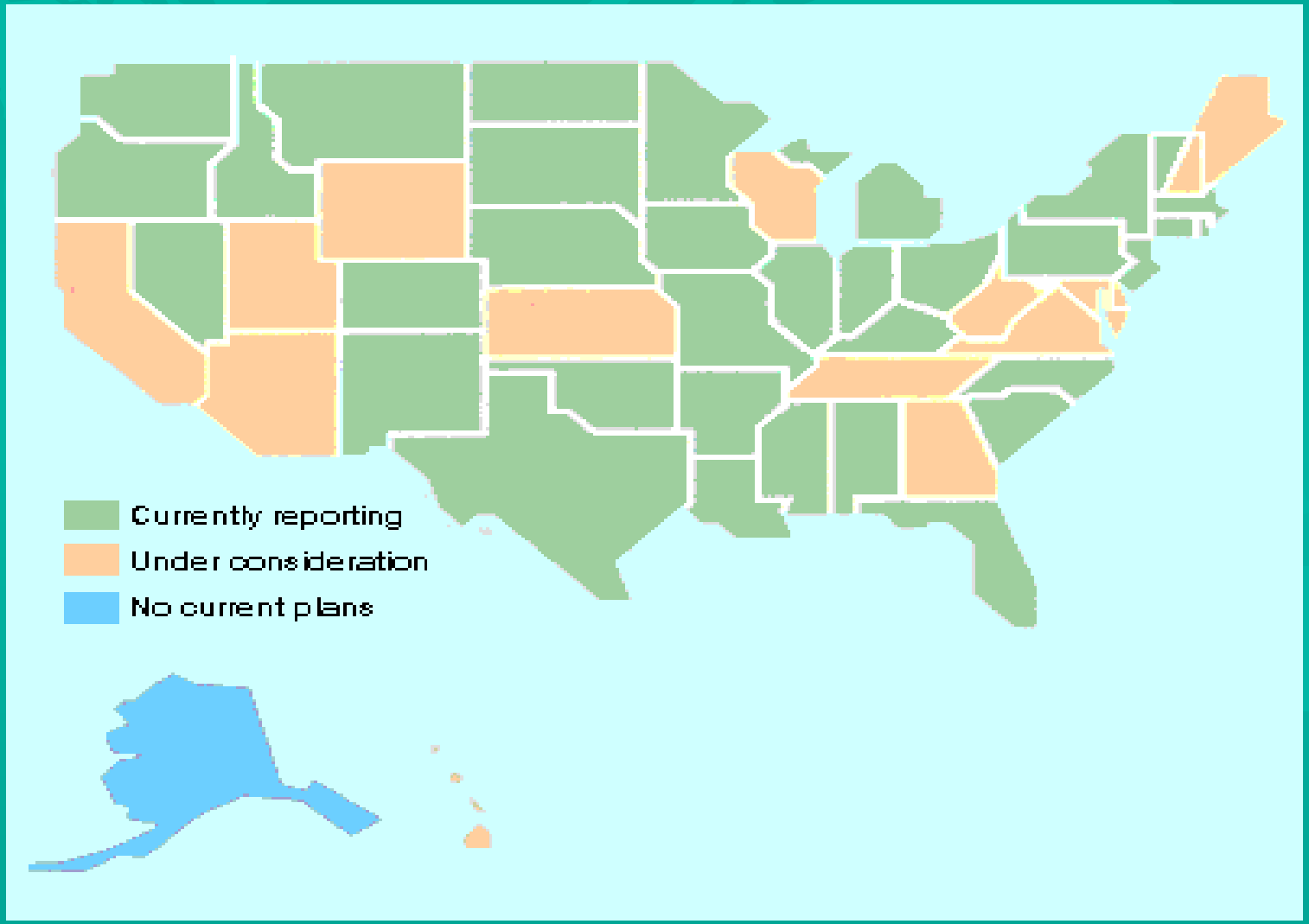
- What is Hamburger Disease?
- How prevalent is it?
- How is it spread?
- What are the symptoms?
- How is it diagnosed?
- How is it treated?
- What are the long-term consequences of the disease?
- How to protect yourself?

What is Hamburger Disease?

- Caused by a germ belonging to the family of ***E. coli*** bacteria
- ***E. coli 0157:H7*** are the most serious strain
- Bacteria produces a toxin or poison that damages lining of human intestine

How prevalent is it?

States reporting *E.Coli 0157:H7* as of March 95



How prevalent is it?

- Each year in the U.S, 10,000 to 20,000 cases are estimated to occur
- The elderly and children younger than 5 yrs old have the highest risks of developing serious illness and subsequent complications

How is it spread?
(infection and transmission)

- Foodborne
  - Eating rare (undercooked) meat, especially ground beef, that was contaminated during slaughter
  - Drinking raw milk that was contaminated during milking
  - Drinking fresh-pressed (unpasteurized) apple cider produced from unwashed apples that had fallen on the ground

How is it spread?
(infection and transmission)

- Foodborne
  - Eating inadequately washed raw vegetables produced from manured soil
  - Eating Yogurt and other contaminated foods, including coney dog sauce, cantaloupe, mayonaise, and salads
- Waterborne
  - Drinking nonchlorinated, contaminated water
  - Swimming in water contaminated with fecal material

How is it spread?
(infection and transmission)

- Direct fecal-oral transmission is the primary route of transmission in child day-care facilities
- Day-cares can also be secondary routes of transmission in foodborne or waterborne outbreaks

What are the symptoms?

- Once contaminated food has been eaten
  - it takes about 7-10 days before onset of symptoms
  - stomach cramps
  - diarrhea : initially watery, then may become bloody
  - a mild fever may be present
  - may last 7 - 10 days

How is it diagnosed?

- Some or all of the symptoms mentioned earlier are usually present
- Definitive diagnosis is made by detecting the bacterium in the stool: Stool sample is taken to lab for analysis

How is it treated?

- Drink lots of clear fluids to prevent dehydration
- Taking medication to stop the diarrhea is not recommended
- Antibiotics are of uncertain benefits: not shown to shorten the duration or lessen risk of complication

Long-term consequences?

- 2% -7% (especially children < 5 yrs old and elderly) may develop **Hemolytic Uremic Syndrome (HUS)**
- HUS is a condition in which red blood cells are destroyed and Kidneys fail
- Persons with only diarrhea usually recover completely
- Persons treated for HUS may have failed kidneys many years later and require dialysis
- Another 8% of those treated for HUS may develop lifelong complications such as high blood pressure, seizures, blindness, paralysis, and even partial removal of their bowel

How to protect yourself?

- **Wash hands** after using the toilet, before preparing foods, and after handling raw meat
- **Drink** only **pasteurized** milk
- **Drink** water from supply known to be **safe**
- **Refrigirate or freeze** meat as soon as possible after buying

How to protect yourself?

- **Thaw** frozen meat in the refrigirator, not on the counter
- **Prepare** raw hamburger patties and other meats quickly and thoroughly: Cook hamburger meat to 155°F, a temp at which juices are clear (not pink)
- **Wash and sanitize** counter tops, cutting boards, and utensils after contact with raw meats and poultry

How to protect yourself?

- **Serve** cooked meat immediately or keep it hot: don’t let it sit out
- **Refrigirate** leftover meat as soon as possible

SUMMARY

- Described epidemiology and cause of Hamburger disease
- Described its route of infection and spread
- Talked about its diagnosis
- Mentioned its treatement
- Discussed possible longterm consequences
- Emphasized preventive measures